Chapter 13
Air Quality

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Chapter 13
Air Quality

This chapter analyzes the proposed action's potential impacts on air quality. Key sources of data used in the preparation of this chapter include the following.

- The California Air Resources Board's (ARB's) 2001–2004 almanacs of emissions and air quality conditions within the State of California (California Air Resources Board 2001, 2002, 2003a, and 2004).
- The ARB website for air quality monitoring data (California Air Resources Board 2003b).
- The San Joaquin Valley Unified Air Pollution Control District's (SJVUAPCD's) guidelines for the assessment of air quality impacts within the district (San Joaquin Valley Unified Air Pollution Control District 2002).
- The U.S. Environmental Protection Agency (EPA) website for air quality monitoring data (U.S. Environmental Protection Agency 2004).

Affected Environment

Regulatory Framework

The action area is located within California's San Joaquin Valley Air Basin (SJVAB) and Mountain Counties Air Basin (MCAB). Air quality conditions within the SJVAB portion of the action area are regulated by SJVUAPCD, while air quality conditions within the MCAB portion of the action area are regulated by the Mariposa County Air Pollution Control District (MCAPCD). The following sections provide additional information on the federal, state, and local regulations and processes governing air quality.

Federal Regulations

Clean Air Act and Amendments

The federal Clean Air Act, originally passed in 1970 and amended twice thereafter, established the framework for modern air pollution control. This act directed the EPA to establish ambient air standards for six "criteria pollutants":

ozone, carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), particulate matter, and sulfur dioxide (SO_2). The standards are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety and the latter to protect environmental values, such as plant and animal life. Table 13-1 shows EPA's National Ambient Air Quality Standards (NAAQS) for the six criteria pollutants.

The primary legislation that governs federal air quality regulations is presented in the Clean Air Act Amendments of 1990. These amendments assign primary responsibility for clean air to the EPA. Pursuant to this mandate, the EPA develops rules and regulations to preserve and improve air quality, and it delegates specific responsibilities to state and local agencies.

The federal Clean Air Act also requires states to submit a state implementation plan (SIP) for areas in nonattainment of federal air quality standards. The SIP, which is reviewed and approved by EPA, must demonstrate how the federal standards will be achieved. Failing to submit a plan or secure approval could lead to denial of federal funding and permits. In cases where the SIP is submitted by the state but fails to demonstrate achievement of the standards, EPA is directed to prepare a federal implementation plan.

Federal Conformity Requirements

Federal projects are subject to either the Transportation Conformity Rule (40 CFR 51[T]), which applies to federal highway or transit projects, or the General Conformity Rule (40 CFR 51[W]), which applies to all other federal projects. Because the proposed action is not a federal highway or transit project, it is subject to the General Conformity Rule.

The purpose of the General Conformity Rule is to ensure that federal projects conform to applicable SIPs so that they do not interfere with strategies employed to attain the NAAQS. The rule applies to federal projects in areas designated as nonattainment areas for any of the six criteria pollutants, and in some areas designated as maintenance areas. The rule applies to all federal projects except the following.

- Programs specifically included in a transportation plan or program that is found to conform under the federal Transportation Conformity Rule,
- Projects with associated emissions below specified *de minimis* threshold levels, and
- Certain other projects that are exempt or presumed to conform.

If a proposed project would result in total direct and indirect emissions in excess of the *de minimis* emission rates, it must be demonstrated that the emissions conform to the applicable SIP for each affected pollutant. If emissions would not exceed the *de minimis* levels, and are not regionally significant, then the project is presumed to conform, and no further analysis or determination is required.

Table 13-1. Ambient Air Quality Standards Applicable in California

			Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
Pollutant	**Symbol**	**Average Time**	**California**	**National**	**California**	**National**	**California**	**National**
Ozone	O_3	1 hour	0.09	0.12	180	235	If exceeded	If exceeded on more than 1 day per year
		8 hours	NA	0.08	NA	157	NA	If fourth highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area
Carbon monoxide	CO	8 hours	9	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
(Lake Tahoe only)		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO_2	Annual average	NA	0.053	NA	100	NA	If exceeded on more than 1 day per year
		1 hour	0.25	NA	470	NA	If exceeded	NA
Sulfur dioxide	SO_2	Annual average	NA	0.03	NA	80	NA	If exceeded
		24 hours	0.04	0.14	105	365	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	NA	655	NA	If exceeded	NA
Hydrogen sulfide	H_2S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C_2H_3Cl	24 hours	0.01	NA	26	NA	If equaled or exceeded	NA
Inhalable particulate matter	PM10	Annual geometric mean	NA	NA	20	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	50	NA	If exceeded at each monitor within area
		24 hours	NA	NA	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual geometric mean	NA	NA	NA	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	12	15	NA	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	NA	NA	NA	65	NA	If 3-year average of 98th percentile at each population-oriented monitor within an area is exceeded
Sulfate particles	SO_4	24 hours	NA	NA	25	NA	If equaled or exceeded	NA
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded no more than 1 day per year
		30-day average	NA	NA	1.5	NA	If equaled or exceeded	NA

Notes: All standards are based on measurements at 25ºC and 1 atmosphere pressure.
National standards shown are the primary (health effects) standards.
NA = not applicable.

Source: California Air Resources Board 2003c.

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State Regulations

Responsibility for achieving California's standards, which are more stringent than federal standards, is placed on the ARB and local air pollution control districts. Standards are achieved through district-level air quality management plans that are incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to ARB, which, in turn, has delegated that authority to individual air districts.

Traditionally, ARB has established state air quality standards (Table 13-1), maintained oversight authority in air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved SIPs. Air districts have overseen stationary source emissions, approved permits, maintained emissions inventories, maintained air quality monitoring stations, overseen agricultural burn permits, and reviewed air quality–related sections of environmental documents required by CEQA.

The California Clean Air Act of 1988 added substantially to the authority and responsibilities of air districts, designating them as lead air quality planning agencies, requiring that they prepare air quality plans, and granting them the authority to regulate indirect sources of air pollution and to implement transportation control measures (TCM). The California Clean Air Act focuses on attainment of the California Ambient Air Quality Standards (CAAQS). It emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. It does not specifically define *indirect and area-wide sources*; however, Section 110 of the federal Clean Air Act provides the following definition:

> a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply….

The California Clean Air Act requires designation of "attainment" and "nonattainment" areas with respect to CAAQS. It also requires that local and regional air districts adopt and prepare an air quality attainment plan if the district violates state air quality standards for CO, SO_2, NO_2, or ozone.[1] These clean air plans are specifically designed to attain the applicable standards and must be designed to achieve an annual 5% reduction in district-wide emissions of each nonattainment pollutant or its precursors.

Local Regulations

At the local level, air quality is managed through land use and development planning practices. These practices are implemented in the action area through

[1] Locally prepared attainment plans are not required for areas that violate the state PM10 standards.

the general plan development process. The SJVUAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws within the SJVAB, while the MCAB portions of the action area are regulated by the MCAPCD.

Overview of Criteria Pollutants

The following sections describe the criteria pollutants of greatest concern in the action area: ozone, CO, and inhalable particulate matter.

Ozone

Ozone is a severe eye, nose, and throat irritant and increases susceptibility to respiratory infections. It is an oxidant, and can cause substantial damage to synthetic rubber, textiles, and other materials. Ozone also produces leaf discoloration and cell damage in plants.

Ozone is not emitted directly, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and oxides of nitrogen (NO_x), react in the presence of sunlight to form ozone. Because photochemical reaction rates depend on air temperature and the intensity of ultraviolet light, ozone is primarily a summer air pollution problem. The ozone precursors ROG and NO_x are emitted by mobile sources as well as by stationary combustion equipment. In the action area, specific sources include vehicle traffic on area roads and highways, as well as agricultural equipment.

Carbon Monoxide

CO has little effect on plants and materials, but it can have significant effects on human health. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches to nausea to death.

Motor vehicles are the primary source of CO emissions in most areas. In the Central Valley region, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures.

Inhalable Particulate Matter

Particulates can damage human health and retard plant growth. They also reduce visibility, soil buildings and materials, and cause corrosion. Health concerns associated with suspended particulate matter focus on particles small enough to be drawn into the lungs when inhaled: those with a diameter of 10 microns or less (PM10), and those with a diameter of 2.5 microns or less (PM2.5).

Particulate emissions are generated by a wide variety of sources in the action area, including agricultural and industrial activities. In addition, dust is suspended by vehicular traffic, and secondary aerosols are formed by reactions in the atmosphere.

Toxic Air Contaminants

Toxic air contaminants (TACs) are pollutants that have the potential to result in an increase in mortality or serious illness or that may pose a present or potential hazard to human health. Health effects of TACs range from cancer and other fatal diseases to birth defects, neurological damage, and damage to the body's natural defense system. Although ambient air quality standards exist for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk-free. However, individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a *unit risk factor* can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor called a *hazard index* is used to evaluate risk. Of particular concern in the action area, ARB recently identified diesel exhaust particulate matter as a TAC.

In the early 1980s, ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Existing Conditions

Regional Climate and Meteorological Conditions

Within the SJVAB, the action area's climate is characterized by hot, dry summers and mild winters. Wind speed and direction data indicate that summer winds usually originate at the north end of the SJVAB and flow in a south-southeasterly direction through the SJVAB and Tehachapi Pass into the Mojave Desert Air Basin. During the winter, winds occasionally originate from the south end of the SJVAB and flow in a north-northwesterly direction. The SJVAB has light, variable winds (less than 10 miles per hour [mph]) during the winter months. Those low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of CO and PM10. The SJVAB's hot summers contribute to high concentrations of ozone.

Within the MCAB, the general climate of the region varies based upon elevation and proximity to the Sierra Nevada. Due to the complexity of the basin's terrain, temperature, rainfall, and localized wind patterns vary widely.

Areas near the Sierra Nevada are generally subject to storms moving westerly from the Pacific Ocean in the winter, which results in abundant precipitation. During the summer, precipitation is much lighter and more intermittent, and generally moves in from the south. In general, the mountainous areas receive more precipitation, and the lowlands less. Rain shadow effects can produce wide variation in precipitation levels between areas in close proximity to one another.

During the winter, mountain temperatures can drop below freezing for extended periods of time, resulting in thick snowpack. Winter temperatures in the western foothill regions usually fall below freezing at night, and precipitation is often a mixture of rain and light snow. During the summer months, mountain temperatures are often mild, with daytime highs in the 70s to low 80s F, while lower elevations, including the valley floor, may experience highs in the upper 90s F or above.

Within the MCAB, meteorology and topography combine so that local conditions predominate in determining the effect of emissions within the basin. Air quality is affected by regional flow patterns, which direct pollutants downwind of polluting sources. In addition, topographic features, such as surrounding mountain ranges, and localized meteorological conditions, such as shallow vertical mixing and light winds, create areas of high pollutant concentrations by hindering their dispersal. The nearby mountains and hills affect airflow within the region by causing shallow vertical mixing, directing surface airflows, and creating areas of high pollutant concentrations by hindering dispersion. Inversion layers frequently occur in small valley areas and trap pollutants close to the ground. This can lead to increased CO levels (hotspots) along heavily traveled roads and at busy intersections during winter months. During the summer, longer daylight hours, high temperatures, and stagnant air provide conditions suitable for the formation of ozone.

Existing Air Quality Conditions in the Action Area

The existing air quality conditions in the action area can be characterized by monitoring data collected in the region. Table 13-2 presents air quality monitoring data for the last 3 years for which data are available for the San Joaquin Air Basin area (1999–2001). Table 13-3 presents monitoring data for the last 3 years for which data are available for the Mariposa County area (2001–2003).

Table 13-2. Ambient Air Quality Monitoring Data in the San Joaquin Air Basin

Pollutant Standards	2000	2001	2002
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.16	0.15	0.15
Number of Days Standard Exceeded[a]			
CAAQS 1-hour (>0.09 ppm)	114	123	127
NAAQS 1-hour (>0.12 ppm)	30	32	31
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	8.3	6.4	5.3
Number of Days Standard Exceeded[a]			
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 8-hour (≥9.0 ppm)	0	0	0
Particulate Matter (PM10)			
Maximum 24-hour concentration ($\mu g/m^3$)	NA	152	194
Maximum Annual geometric mean concentration ($\mu g/m^3$)	45.4	44.4	59.9
Particulate Matter (PM2.5)			
Maximum 24-hour concentration ($\mu g/m^3$)	160.0	154.7	104.3
Average of Quarterly Means for State Data ($\mu g/m^3$)	25.5	37.9	30.5

Notes: CAAQS = California Ambient Air Quality Standards.
NAAQS = National Ambient Air Quality Standards.

[a] The number of days above the standard is not necessarily the number of violations of the standard for the year.

Sources: California Air Resources Board 2002, 2003a, 2004.

Table 13-3. Ambient Air Quality Monitoring Data within Mariposa County

Pollutant Standards	2001	2002	2003
Ozone—Jerseydale Station			
Maximum 1-hour concentration (ppm)	0.116	0.105	0.126
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.12 ppm)	0	0	1
CAAQS 1-hour (>0.09 ppm)	3	12	13
Ozone—Yosemite National Park, Turtleback Dome			
Maximum 1-hour concentration (ppm)	0.114	0.106	0.135
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.12 ppm)	0	0	1
CAAQS 1-hour (>0.09 ppm)	3	15	6
Ozone—Yosemite National Park, Merced River			
Maximum 1-hour concentration (ppm)	NA	0.081	0.080
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.12 ppm)	NA	0	0
CAAQS 1-hour (>0.09 ppm)	NA	0	0
Ozone—Jerseydale Station			
Maximum 8-hour concentration (ppm)	0.097	0.097	0.103
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.08 ppm)	7	19	27
Ozone—Yosemite National Park, Turtleback Dome			
Maximum 8-hour concentration (ppm)	0.098	0.095	0.102
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.08 ppm)	4	24	10
Ozone—Yosemite National Park, Merced River			
Maximum 8-hour concentration (ppm)	NA	0.076	0.070
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.08 ppm)	NA	0	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	NA	NA	1.48
Maximum 1-hour concentration (ppm)	NA	NA	2.5
Number of days standard exceeded[a]			
NAAQS 8-hour ($\geq$9.0 ppm)	0	0	0
CAAQS 8-hour ($\geq$9.0 ppm)	0	0	0
NAAQS 1-hour ($\geq$35 ppm)	0	0	0
CAAQS 1-hour ($\geq$20 ppm)	0	0	0

Pollutant Standards	2001	2002	2003
Particulate Matter (PM10)[b]—Yosemite Village Visitor Center			
National[c] maximum 24-hour concentration ($\mu g/m^3$)	312	76	66
National[c] second-highest 24-hour concentration ($\mu g/m^3$)	154.0	58	50
State[d] maximum 24-hour concentration ($\mu g/m^3$)	277	72	58
State[d] second-highest 24-hour concentration ($\mu g/m^3$)	135	52	44
National[c] annual average concentration ($\mu g/m^3$)	333	28.5	23.1
State[d] annual average concentration ($\mu g/m^3$)	29.6	25.9	21.0
Number of days standard exceeded[a]			
NAAQS 24-hour (>150 $\mu g/m^3$)[e]	1	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)[e]	6	3	1

Notes: CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
NA = insufficient data available to determine the value.

[a] An exceedance is not necessarily a violation.

[b] Measurements usually are collected every 6 days.

[c] National statistics are based on standard conditions data.

[d] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data.

[e] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.

Sources: California Air Resources Board 2004, U.S. Environmental Protection Agency 2004.

If a pollutant concentration is lower than the state or federal standard, the area is classified as being *in attainment* for that pollutant. If a pollutant violates the standard, the area is considered a *nonattainment* area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated as *unclassified*.

Table 13-4 on the following page summarizes the attainment status for the action area, as designated by ARB and EPA.

Table 13-4. 2004 Attainment Status for State and Federal Standards for the PG&E San Joaquin Valley Action Area

	SJVUAPCD		MCAPCD	
Pollutant	**State**	**Federal**	**State**	**Federal**
1-hour ozone (O_3)	Severe nonattainment	Extreme nonattainment	Nonattainment	Unclassified/ attainment
8-hour ozone (O_3)	NA	Serious nonattainment	NA	Nonattainment
PM10	Nonattainment	Serious nonattainment	Yosemite National Park is classified as being a nonattainment area, while the rest of the County is classified as unclassified	Unclassified/ attainment
PM2.5	Nonattainment	NA	Unclassified	NA
CO	Attainment	Moderate (≤ 12.7 ppm) maintenance area for the Stockton Urbanized Area (3/29/85, 50 FR 12540); and Moderate (> 12.7 ppm) maintenance area for the Fresno Urbanized Area (11/20/85, 50 FR 47735)	Unclassified	Unclassified/ attainment

Source: California Air Resources Board 2004.

Sensitive Land Uses

Populations considered sensitive to poor air quality (*sensitive receptors*) include residents, school children, hospital patients, and the elderly. For the purposes of this analysis, *sensitive land uses* are defined as locations where people, particularly sensitive receptors, are concentrated or where the presence of pollutant emissions could adversely affect the use of the land.

Sensitive land uses are found throughout the action area. Sensitive land uses such as residential areas, schools, and hospitals are typically most concentrated in developed areas, but residences and other sensitive land uses also occur in sparser distribution in rural/agricultural areas.

Environmental Consequences and Mitigation Strategies

Methodology for Impact Analysis

O&M and minor construction activities would be the principal source of pollutant emissions associated with the proposed action, so analysis of the proposed action's effects on air quality focused on O&M and minor construction activities. Because the O&M and minor construction program would be the same under all alternatives, this analysis assumed that air pollutant emissions would be the same for all alternatives. As discussed in Chapter 2, PG&E has committed to complying with the SJVUAPCD's Regulation VIII PM10 control measures, including implementation of all feasible control measures specified in its Guide for Assessing Air Quality Impacts (San Joaquin Valley Unified Air Pollution Control District 2002). Regulation VIII compliance was thus assumed for all O&M and minor construction activities enabled under the proposed action and alternatives, in the SJVUAPCD and in Mariposa County. For the federal General Conformity determination, emissions from construction activities were assessed qualitatively, based on the type of equipment used in typical construction activities.

The proposed action and alternatives would each result in a slightly different balance of impact avoidance versus compensation for unavoidable impacts, so there could be some in-practice difference in long-term pollutant generation related to variation in the extent of compensation lands and the equipment and ground disturbance needed to manage them. However, it is impossible to predict the extent and type of management activities needed under each alternative, or the exact equipment required, because the location and condition of compensation lands cannot be identified at this time. Consequently, analysis of the—probably minor—differences in air pollutant emissions among the proposed action and alternatives would be speculative at this time, and this topic is not addressed further in this EIS/EIR.

Significance Criteria

General Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following.

- Conflict or interference with the applicable air quality management plan;
- Violation of any federal or state air quality standard, or substantial contribution to an existing or projected air quality violation; or
- Exposure of sensitive receptors to substantial pollutant concentrations.

The state's CEQA Guidelines direct that the significance criteria established by the local air quality management or air pollution control district with jurisdiction may be used to make the determinations above. This analysis used the SJVUAPCD's criteria because they are the more stringent of the two districts' thresholds.

Emission thresholds for the SJVUAPCD are contained in the SJVUAPCD's Guide for Assessing and Mitigating Air Quality Impacts (San Joaquin Valley Unified Air Pollution Control District 2002). According to the SJVUAPCD's thresholds of significance, an impact would be considered significant and would require mitigation if it would result in any of the following[2].

- Exposure of sensitive receptors to substantial pollutant concentrations,
- Production or more than 10 tons/year of ROG,
- Production of more than 10 tons/year NO_x,
- Exceedance of NAAQS or CAAQS for CO (9 ppm 8-hour average; 20 ppm 1-hour average), or
- Failure to comply with the SJVUAPCD's Regulation VIII regarding particulate matter emissions from construction activities.

Federal General Conformity Thresholds

As identified in *Regulatory Framework* above, the proposed action is subject to the federal General Conformity Rule. Because the portion of the action area located is classified as being an extreme nonattainment area for ozone within the SJVUAPCD, a serious nonattainment area for PM10 within the SJVUAPCD, and a nonattainment area for ozone within Mariposa County (Table 13-4), conformity for ozone and PM10 must be completed. For the purposes of this analysis, yearly project emissions in excess of the *de minimis* thresholds indicated in Table 13-5 would be considered an adverse air quality impact.

Table 13-5. *De Minimis* Emission Rate Thresholds for Criteria Pollutants in Nonattainment Areas

Pollutant	Emission Rate
Ozone (Volatile Organic Compounds [VOCs] or NO_x)	
Serious nonattainment areas	50 tons/year
Severe nonattainment areas	25 tons/year
Extreme nonattainment areas	10 tons/year

[2] For comparison, the MCAPCD has established CEQA analysis thresholds of 100 tons per year for PM10, CO, ROG, and NO_x.

Pollutant	Emission Rate
Other ozone nonattainment areas outside an ozone transport region	100 tons/year
Marginal and moderate nonattainment areas inside an ozone transport region	
VOC	50 tons/year
NO_x	100 tons/year
CO: All nonattainment areas	100 tons/year
SO_2 or NO_2: All nonattainment areas	100 tons/year
PM10	
Moderate nonattainment areas	100 tons/year
Serious nonattainment areas	70 tons/year
Pb: All nonattainment areas	25 tons/year

Source: 40 CFR 51.853

Impacts and Mitigation Measures—All Alternatives

Impact AIR1—Potential to generate increased pollutant emissions during O&M activities. As discussed in *Methodology for Impact Analysis* above, PG&E's ongoing O&M and minor construction activities are expected to be the principal source of air pollutant emissions associated with the proposed action, and these activities would be the same under the proposed action, the three action alternatives, and the No Action Alternative. All of these activities entail some potential to generate vehicle- and equipment-related pollutants and fugitive dust, as summarized below.

- Vehicles (e.g., trucks, helicopters and fixed-wing light aircraft, and all-terrain vehicles) used for employee access to sites and for inspection patrols would generate emissions of CO, ozone precursors, and particulate matter.
- Heavy machinery (e.g., cranes, excavators, and scrapers) for construction and maintenance of PG&E facilities and infrastructure would generate emissions of CO, ozone precursors, and particulate matter.
- Smaller equipment (e.g., chainsaws and generators) would generate emissions of CO, ozone precursors, and particulate matter.
- Painting and asphalt paving would generate ROG emissions.
- Ground-disturbing activities (e.g., grading, excavation, and construction of roadways) would generate emissions of fugitive dust (PM10 and PM2.5).
- Vehicles and equipment traveling on unpaved roads and offroad would generate emissions of fugitive dust (PM10 and PM2.5).

Specifics regarding the types and number of vehicles/equipment, duration of use, and frequency of use are impossible to predict at this time, but it is anticipated that PG&E's activities would continue in their current manner. These activities are temporary and sporadic; although some, such as patrols, are regularly scheduled in compliance with California Public Utilities Commission (CPUC) requirements, others occur on an as-needed basis. Further, while most of these activities require very little equipment, equipment used in the future would become cleaner and emit fewer pollutants, compared to current emissions, as older, more polluting equipment is replaced with newer, less polluting equipment.

Because individual O&M activities are expected to be relatively short-term, would not use much equipment, and would use progressively "cleaner" equipment as older engines are replaced by newer engines, it is not anticipated that emissions from O&M activities would exceed the SJVUAPCD thresholds levels of 10 tons per year for ROG and NO_x. **Consequently, this impact is expected to be less than significant for ROG and NO_x.**

This impact is also expected to be less than significant for CO because both the SJVUAPCD and Mariposa County portions of the action area are in attainment for federal and state CO standards, and activities enabled by the proposed action and alternatives would generate comparatively small increases in CO levels, substantially insufficient to result in exceedance of any applicable standard.

Implementation of the SJVUAPCD's Regulation VIII PM10 controls would address emissions of PM10. As discussed in Chapter 2, the Regulation VIII controls provide a comprehensive palette of measures, including[3]

- stabilizing all inactive disturbed areas using water, a chemical stabilizer/suppressant, tarps or other suitable cover, or vegetative ground cover;
- stabilizing spoils areas and stockpiles using water or a chemical suppressant;
- stabilizing unpaved roads using water or a chemical stabilizer/suppressant;
- using water application or presoaking to control dust generation during site clearing, grubbing, scraping, excavation, grading, fill placement, and demolition;
- covering loads of material to be hauled offsite, or wetting them to limit visible dust emissions, and providing at least 6 inches of freeboard; and
- preventing, limiting, or removing the accumulation of mud or dirt in adjacent public streets at the end of each workday;

When additional precautions are needed to adequately control fugitive dust, speeds on unpaved roads must be limited to 15 mph, and sandbags or other

[3] For the complete text of the SJVUAPCD's Regulation VIII PM10 controls, see Chapter 2.

erosion control measures must be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%. Further measures are encouraged at large construction sites and sites that are located near sensitive receptors or where additional care is required for any reason. With these measures in place, PM10 generation is considered adequately mitigated. **PM10-related impacts on air quality are thus evaluated as less than significant for activities subject to SJVUAPCD's Regulation VIII measures (minor construction and some O&M activities).**

As discussed in Chapter 2, the SJVUAPCD's Regulation VIII measures were developed to address PM10 generation during construction. Although they cover a broad range of ground-disturbing activities, they do not apply to emergency procedures that (1) are necessary to ensure public health and safety or restore service during outages, and (2) have a duration less than 30 days. Some types of O&M work are also exempt because they do not qualify as construction *per se*. However, emergency work sites must be brought into compliance following the completion of work, and the types of O&M activities exempted because they do not qualify as construction are unlikely to generate substantial volumes of PM10. Thus, **PM10 impacts are also expected to be less than significant for activities specifically exempted by SJVUAPCD from compliance with the Regulation VIII measures.**

In summary, the potential for increased pollutant emissions during O&M activities is evaluated as less than significant.

Mitigation Measure—No mitigation is required.

Impact AIR2—Potential to exceed federal General Conformity thresholds. As discussed for Impact AIR1 above, individual O&M activities are expected to be relatively short-term, and the equipment used would be progressively "cleaner" as older engines are replaced by newer engines. Consequently, emissions from individual O&M and minor construction activities are not expected to exceed the federal *de minimis* levels of 10 tons per year for ROG and NO_x, and 70 tons per year for PM10. There is no need to address conformity for CO, because both the SJVUAPCD and Mariposa County portions of the action area are in attainment for federal CO standards.

There would be no impact related to federal general conformity; conformity determination is not warranted, and no further analysis of federal general conformity issues is needed for any of the alternatives.

Mitigation Measure—No mitigation is required.

Impact AIR3—Air quality enhancement as a result of habitat compensation. The proposed action and all three action alternatives provide for the preservation and enhancement of offsite habitat as a means of compensating for the biological effects of PG&E's O&M and minor construction activities. The specific compensation ratios differ between the proposed action and the action alternative (specifically, Alternative 2, which would entail "enhanced" compensation at

increased ratios, as described in Chapter 2). However, the general mechanism for identifying compensation needs and obtaining appropriate mitigation lands would be the same.

Under the proposed action and all three action alternatives, the acreage required for compensation is expected to consistently exceed the actual acreage impacted, and the mitigation lands would consist of high quality open space that meets specific biological parameters. Consequently, the proposed action and the three action alternatives all offer a potential benefit for air quality, deriving from the preservation and enhancement of vegetated open space. This benefit would be greatest under Alternative 2, which would require greater mitigation acreages to satisfy its enhanced compensation ratios. Benefits would be somewhat less under the proposed action and Alternatives 1 and 3, which would all use the same, slightly lower, compensation ratios. Some benefit is possible under the No Action Alternative because activity-by-activity permitting and consultation with U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (DFG) would likely result in some level of habitat preservation and/or enhancement, but it is difficult to assess outcomes in a substantive way at this time.

In summary, **this impact would be beneficial.**

Mitigation Measure—No mitigation is required.

References Cited in this Chapter

California Air Resources Board. 2001. The 2001 California Almanac of Emissions and Air Quality. April. Sacramento, CA.

_____. 2002. The 2002 California Almanac of Emissions and Air Quality. April. Sacramento, CA.

_____. 2003a. The 2003 California Almanac of Emissions and Air Quality. April. Sacramento, CA.

_____. 2003b. Top 4 Measurements and Days Above the Standard. Last Revised: May 21, 2003. Available: <http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start>. Accessed: March 11, 2004.

_____. 2004. Area Designations Maps / State and National. Last revised: September 30, 2004. Available: <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed: October 28, 2004.

_____. 2003c. Proposed Amendments to the Area Designation Criteria and Area Designations for State Ambient Air Quality Standards and Maps of Area Designations for State and National Ambient Air Quality Standards. December 5. Sacramento, CA

_____. 2004. The 2003 California Almanac of Emissions and Air Quality. April. Sacramento, CA.

San Joaquin Valley Unified Air Pollution Control District. 2002. Guide for Assessing and Mitigating Air Quality Impacts. Mobile Source/CEQA Section of the Planning Division of the San Joaquin Valley Unified Air Pollution Control District. January 10. Fresno, CA.

U.S. Environmental Protection Agency. 2004. Air Data. Last Revised: February 24, 2004. Available: <http://www.epa.gov/air/data/reports.html>. Accessed: March 11, 2004.

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